

# Extreme Energy Particle Astrophysics with ANITA-V California Polytechnic State University Co-I

Completed Technology Project (2017 - 2021)



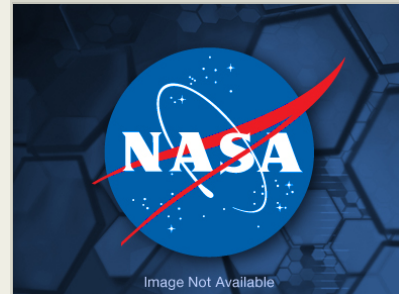
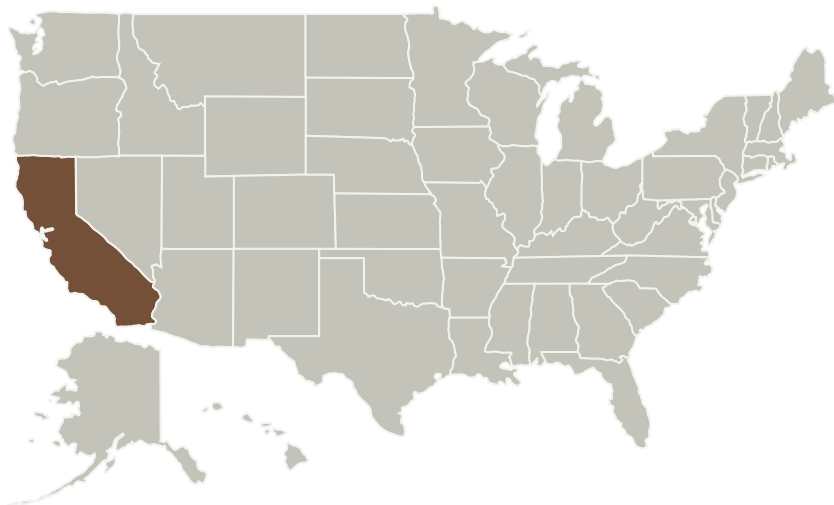
## Project Introduction

This proposal is in collaboration with Peter Gorham at the University of Hawaii, who is the PI of the lead proposal. Co-I Wissel and her group at California Polytechnic State University (Cal Poly) will be responsible for calibration equipment upgrades, calibration equipment, and deployment of the calibration system. The Cal Poly group will provide calibration hardware and software products in support of the analysis of ANITA-V data in search of ultra high-energy (UHE) neutrinos and cosmic rays. Wissel (now at Cal Poly, a new collaborating institution for ANITA-5) brings significant experience in the detection of high-energy and ultra-high energy particles to the collaboration, leveraging her thirteen years of experience in particle astrophysics and previous work on ANITA-III and ANITA-IV.

## Anticipated Benefits

The Astrophysics Research and Analysis program (APRA) supports suborbital and suborbital-class investigations, development of detectors and supporting technology, laboratory astrophysics, and limited ground based observing. Basic research proposals in these areas are solicited for investigations that are relevant to NASA's programs in astronomy and astrophysics, including the entire range of photons, gravitational waves, and particle astrophysics. The emphasis of this solicitation is on technologies and investigations that advance NASA astrophysics missions and goals.

## Primary U.S. Work Locations and Key Partners



Extreme Energy Particle Astrophysics with ANITA-V California Polytechnic State University Co-I

## Table of Contents

Project Introduction	1
Anticipated Benefits	1
Primary U.S. Work Locations and Key Partners	1
Organizational Responsibility	2
Project Management	2
Technology Maturity (TRL)	3
Technology Areas	3
Target Destination	3

# Extreme Energy Particle Astrophysics with ANITA-V California Polytechnic State University Co-I

Completed Technology Project (2017 - 2021)



Organizations Performing Work	Role	Type	Location
California Polytechnic State University-San Luis Obispo(Cal Poly)	Lead Organization	Academia Asian American Native American Pacific Islander (AANAPISI)	San Luis Obispo, California

## Primary U.S. Work Locations

California

## Organizational Responsibility

### Responsible Mission Directorate:

Science Mission Directorate (SMD)

### Lead Organization:

California Polytechnic State University-San Luis Obispo (Cal Poly)

### Responsible Program:

Astrophysics Research and Analysis

## Project Management

### Program Director:

Michael A Garcia

### Program Manager:

Dominic J Benford

### Principal Investigator:

Stephanie A Wissel

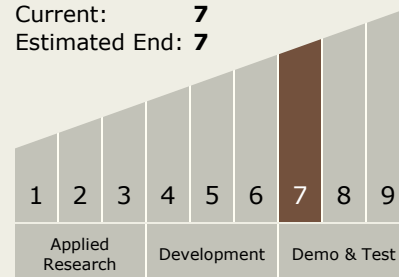
### Co-Investigator:

Trish Brock



## Technology Maturity (TRL)

Start: 7  
Current: 7  
Estimated End: 7



## Technology Areas

### Primary:

- TX01 Propulsion Systems
  - └ TX01.1 Chemical Space Propulsion
    - └ TX01.1.8 Warm Gas

## Target Destination

Outside the Solar System